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**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/785,185  
Filing Date: February 25, 2004  
Applicant: Tae-joong Song et al.  
Group Art Unit: 2824  
Confirmation No: 3376  
Examiner: Anh K. Phung  
Title: SEMICONDUCTOR MEMORY DEVICE WITH  
SELECTIVELY CONNECTABLE SEGMENTED BIT  
LINE MEMBER AND METHOD OF DRIVING THE  
SAME  
Attorney Docket: 2557-000223/US

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314  
**Mail Stop Amendment**

June 23, 2005

**INFORMATION DISCLOSURE STATEMENT**

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicant hereby submits an Information Disclosure Statement for consideration by the Examiner.

I. **LIST OF PATENTS, PUBLICATIONS, AND OTHER INFORMATION**

The patents, publications and other information submitted for consideration by the Office (except unpublished U.S. patent applications) are listed on Form PTO-1449 attached hereto.

II. **COPIES**

A. ☒ Submitted herewith is a legible copy of (i) each foreign patent; (ii) each publication or that portion which caused it to be listed, other than U.S. patents and U.S. patent application publications unless required by the Office; (iii) for each cited pending unpublished U.S. application listed below in Section IV, the application specification including the claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion; and (iv) all other information or that portion which caused it to be listed.

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B. ☐ Any patents, publications or other information which are listed on Form PTO-1449 or on the copies of Form PTO-892, but which are not enclosed herewith, were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. § 120:

U.S. Serial Number

U.S. Filing Date

C. ☐ Because the present application was/is being filed after June 30, 2003, no copies of the U.S. patents or U.S. patent application publications which are listed on the attached Form PTO-1449 are enclosed pursuant to the waiver of 37 C.F.R. § 1.98(a)(2)(i). Any foreign patent documents or non-patent literature listed on the attached Form PTO-1449 are enclosed herewith.

D. ☐ This is a PCT application in the entry of the National Phase in the United States. A copy of the International Search Report is attached for the Examiner's information. The documents listed on the International Search Report are listed on the attached Form PTO-1449 for consideration by the Examiner and for listing on any patent resulting from this application. Since the International Search Report was from the US, EPO, or JPO search authorities, copies of these references should have been supplied to the USPTO under the trilateral agreement and are believed to be in the file of the above-identified application. (MPEP 1893.03(g))

III. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

A. ☐ Except as may be indicated below in (B), all of the patents, publications or other information are in the English language (concise explanation not required).

B. ☒ A concise explanation of the relevance of each patent, publication or other information listed that is not in the English language is as follows (see 37 C.F.R. § 1.98(a)(3)):

1. ☐ See the attached foreign patent office communication from a counterpart foreign application:
2. ☒ English translations are provided for: **JP 9-128970**
3. ☐ Other:

C. ☐ The following additional information is provided for the Examiner's consideration.

IV. CROSS REFERENCE TO RELATED APPLICATION(S)

A. ☐ The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this(these) application(s) to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. § 122.

Serial No.

Filing Date

Art Unit

V. THIS IDS IS BEING FILED UNDER

A. ☐ 37 C.F.R. § 1.97(b): (check only one box)

1. ☐ within three months of the filing date of a national application other than a continued prosecution application under 37 C.F.R. § 1.53(d) (37 C.F.R. § 1.97(b)(1)). No fee or certification is required.
2. ☐ within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application (37 C.F.R. § 1.97(b)(2)). No fee or certification is required.
3. ☐ before the mailing of a first Office Action on the merits (37 C.F.R. § 1.97(b)(3)). No fee or certification is required. In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the certification under 37 C.F.R. § 1.97(e) below; or, if no certification has been made, charge our deposit account a fee in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).
4. ☐ before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No fee or certification is required.

B. ☐ 37 C.F.R. § 1.97(c): (check only one box)

- ☐ before the mailing date of either any Final Office Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution.
1. ☐ No certification; therefore, a fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).
  2. ☐ See the certification below. No fee is required.

C. ☒ 37 C.F.R. § 1.97(d):

- ☒ after the mailing date of either a Final Office Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, yet on or before payment of the issue fee.
1. ☒ See the certification below. A fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

VI. CERTIFICATION UNDER 37 C.F.R. § 1.97(e): (check only one box)

The undersigned hereby certifies that:

- A. ☒ each item of information contained in this IDS was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(1)). See further statement under 37 C.F.R. § 1.704(d) below in section VII, if applicable; or
- B. ☐ no item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(2)).
- C. ☐ Some of the items of information were first cited in a communication from a foreign patent office. As to this information, the undersigned hereby certifies that each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby certifies that no item of this remaining information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS.

VII. STATEMENT UNDER 37 C.F.R. § 1.704(d)

The undersigned hereby states that:

☐ each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this IDS.

VIII. PAYMENT OF FEES (check only one box)

- A. ☐ No fee is believed to be due in light of the above-provided certification.
- B. ☒ A check in the amount of \$180.00 is enclosed for the above-identified fee.
- C. ☐ Please charge Deposit Account No. 08-0750 in the amount of \$180.00 for the above-indicated fee. A duplicate copy of this paper is attached.

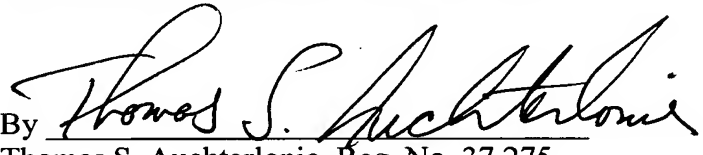
The above references are being cited only in the interest of candor and without any admission that they constitute statutory prior art, contain matter which anticipates the invention, or which would render the same obvious, either singly or in combination, to a person of ordinary skill in the art. Furthermore, this Information Disclosure Statement shall not be construed as a representation that a search has been made.

If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 08-0750.

Please charge any additional fees or credit any overpayment pursuant to 37 C.F.R. §§ 1.16 or 1.17 to Deposit Account No. 08-0750.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By 

Thomas S. Auchterlonie, Reg. No. 37,275  
P.O. Box 8910  
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TSA/krf

Enclosures: ☒ Korean Office Action dated April 28, 2005  
☒ Translation of Korean Office Action  
☒ Form PTO-1449  
☒ (1) Reference



## NOTICE TO SUBMIT RESPONSE

### Patent Applicant

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2F Cheonghwa Bldg., 1571-18 Seocho-dong, Seocho-ku, Seoul,  
Korea

Application No.: 10-2003-0034362

Title of the Invention: Semiconductor memory device reducing load capacitance of write-only bit line in read/scan operation and method of driving the same

According to Article 63 of the Korean Patent Law, the applicant is notified that the present application has been rejected for the reasons given below. Any Argument or Amendment which the applicant may wish to submit, must be submitted by April 27, 2004. An indefinite number of one-month extensions in the period for submitting a response may be obtained upon request, however no official confirmation of the acceptance of a request for an extension will be issued.

### Reasons

The invention as recited in the claims 1, 2, and 8 through 14 could have been easily invented by one of ordinary skill in the art prior to the filing of the application, and thus this application is rejected according to Article 29(2) of the Korean Patent Law.

In consideration of the present application and a cited reference (Japanese Laid-open Patent Publication No. hei 9-128970 published on May 16, 1997), the following points may be found.

Claim 1 of the present invention relates to a semiconductor memory device including a first bit cell array block, a second bit cell array block, a block division logic, a write bit line divider, a read/write driver, and a scan driver. Claim 2 relates to a semiconductor

memory device further comprising a cell array block.

The first, second, and third bit cell array blocks, the block division logic, the light bit line divider, the scan driver of the present invention are similar to first, second, third memory arrays, a switching device, and a sense amplifier of the cited reference in terms of the structure and function thereof, respectively. In addition, the read/write driver of the present invention is well known to those skilled in the art. Accordingly, it may be assumed that the present invention can be easily derived from the cited reference.

In addition, the invention described in claims 8 through 14 relates to a method of driving a semiconductor memory device, the method including: performing the read/scan operation using the single-end bit lines by opening the write-only bit lines in a memory cell array block unit; and performing the write operation using the double-end bit lines by short-circuiting the write-only bit lines.

The invention disclosed in claims 8 through 14 is similar to a method of driving a semiconductor memory device of the cited invention, in which pairs of bit lines are opened/short-circuited in a memory cell array block unit using a control signal and a transfer gate.

The only difference between the present invention and the cited reference lies in the number of a bit line that is short-circuited/opened. That is, in the present invention, only a single bit line is short-circuited/opened, but in the cited reference, a pair of bit lines is short-circuited/opened. The difference can be easily made by modifying the cited reference without any difficulty, and does not bring about a substantial increase of the effect.

Accordingly, those skilled in the art can easily achieve the present invention using the cited reference. (Article (29)(2)).

[Attachment]

Enclosure: Japanese Laid-open Patent Publication No. hei 9-128970 published on May 16, 1997

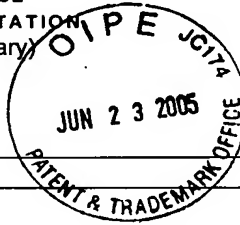
28 April 2005

Eun-Taek Hwang/Examiner  
Information Examination Division  
Electric & Electronic Examination Bureau  
Korean Industrial Property Office

FORM HDP-1449 (Based on Form PTO-1449)

**PATENT AND TRADEMARK OFFICE**  
**INFORMATION DISCLOSURE CITATION**  
 (Use several sheets if necessary)

Sheet 1 of 1



ATTORNEY DOCKET No.

2557-000223/US

SERIAL No.

10/785,185

APPLICANT

Tae-joong Song et al.

FILING DATE

February 25, 2004

GROUP

2824

**U.S. PATENT DOCUMENTS**

Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/ Subclass	(If appropriate) Filing Date

**FOREIGN PATENT DOCUMENTS**

Ref. Desig.	Examiner's Initials	Document Number	Date	Country	Class/ Subclass	Translation Yes	No
		JP 9-128970	05-16-1997	JAPAN		Abst.	

**OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)**

Ref. Desig.	Examiner's Initials	

TSA/smk

Examiner:

Date Considered:

EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.